

Notice of Allowability

Application No.

10/617,027

Examiner

Sheela C. Chawan

Applicant(s)

KIM ET AL.

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/11/03.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>6/12/06</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 6/12/06 has been considered by the examiner.

Drawings

3. The Examiner has approved drawings filed on 7/11/03.

Reason For Allowance

4. The following is an examiner's statement of reasons for allowance:

Claims 1-16 are allowed.

The present invention is directed to an apparatus for identifying human organs from an input ultrasound image, claim 1 recites an apparatus signal comprising:

a memory for storing a list of predetermined types of organs and a plurality of ultrasound images in association with each of the predetermined types of organs;

a second feature vector determiner for determining respective second feature vectors of the ultrasound images for each of the predetermined types of organs;

a calculator for calculating an average vector and a standard deviation vector of the second feature vectors for each of the predetermined types of organs; and

an organ determiner for selecting one of the average vectors for the predetermined types of organs based on the first feature vector and the average vectors

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and the standard deviation vectors for the predetermined types of organs, and for determining an organ corresponding to the selected average vector as an organ corresponding to the input ultrasound image signal. The closest prior art, Fenster et al. (US.6,334,847 B1) discloses enhanced image processing for a three-dimensional imaging system. Fenster et al., (US. 5,454,371) discloses method and system for constructing and displaying three-dimensional images. Mattrey (US.6,444,192 B1) discloses diagnostic imaging of lymph structures. Sheehan et al., (US. 6,106,466) discloses automated delineation of heart contours from images using reconstruction-based modeling. . Each of the above references either singularly or in combination, fail to anticipate or render the above limitation obvious.

5. Any comments considered necessary by applicant must be submitted on later than the payment of the issue fee and to avoid processing delays should preferably accompany the issue fee. Such submissions should be clearly labeled, comments on statement of reasons for allowance.

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Other prior art cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Giger et al., (US. 7,123,762 B2) discloses method and system for risk-modulated diagnosis of disease.

Yeh et al., (US. 6,549,646 B1) discloses divide-and-conquer method and system for the detection of lung nodule in radiological images.

Uppaluri et al., (US. 6,466,687 B1) discloses method and apparatus for analyzing CT images to determine the presence of pulmonary tissue pathology.

Fenster et al., (US. 6,461,298 B1) discloses three-dimensional imaging system.


Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446. The examiner can normally be reached on Monday - Thursday 7.30 - 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheela Chawan
Patent Examiner
Group Art Unit 2624
May 21, 2007


SHEELA CHAWAN
PRIMARY EXAMINER